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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Implementation of the Local Competition)
Provisions in the Telecommunications Act) CC Docket No. 96-98
of 1996)
)

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SUPPLEMENTAL COMMENTS

Cox Communications, Inc. ("Cox"), by its attorneys, hereby submits supplemental comments addressing the FCC Staff Industry Demand and Supply Simulation Model ("FCC Model" or "Model").^{1/} Because the Commission chose to request supplemental comments on the Model in its local competition proceeding, it is reasonable to assume that the Model, either in its current or a modified form, could influence Commission decision making in this important proceeding. Cox limits its comments to the adequacy of the Model as an analytical tool to inform the Commission's judgment in this and related rulemakings.

In general, models can serve a useful function as a tool in the decision making process. It is imperative, however, that any model used by the Commission conform to the basic, standard requirements for analytic models. As explained below, the Model fails to contain variables and algorithms that could inform the Commission or the public regarding the impact on competition of the pricing of resale, unbundled elements and co-carrier

^{1/} See Public Notice, "Supplemental Comment Period Designated For Local Competition Proceeding, CC Docket No. 96-98," DA 96-1007, IAD 97-175 (released June 20, 1996), (the "Public Notice"); see also Public Notice, "Supplemental Comment Period Extended For Local Competition Proceeding, CC Docket No. 96-98," DA 96-1030, IAD 96-176 (released June 25, 1996).

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reciprocal termination compensation that are at the heart of the current proceeding.

Accordingly, the Model in its present form is an irrelevant distraction in the local competition proceeding. Moreover, because of the complexity and dynamic nature of the telecommunications industry and the great number and sensitivity of the variables in the Model, Cox also has serious doubts as to the credibility of the Model results as they may be applied to other purposes, including universal service and access charge reform.

I. THE MODEL IS NOT CREDIBLE.

Economic modeling can assist decision making by permitting the analyst to vary inputs and gauge the results. At its most basic level, however, every credible model must contain certain elements that are missing from the current FCC Model. First and most significantly from Cox's perspective, the FCC Model is mute on the most fundamental of issues — the purpose of the Model itself. It is important to know whether, for example, the Model is designed to test the financial staying power of incumbent LECs in the face of anticipated levels of competition for core monopoly services or, as is suggested by the Public Notice, it is intended to be used to address specific issues in this proceeding. Knowing the purpose of the Model is a necessary prerequisite to providing any critique. To receive useful comment, the Commission cannot cloak the Model's intended use from the public.

To be credible, a model also must satisfy several basic documentation requirements and be structurally sound. It is critical that models contain a stated purpose, as discussed above, as well as identified objectives. In order for others to understand a series of potentially interrelated variables and extrapolations the creator of a model must document — in writing — the assumptions and theories underlying the model's structure. It also is

essential that each input be individually identified and explained, and a discussion of the sensitivity of the model to input changes and the range of inputs values that might be assumed must be included. Finally, the use and meaning of the model's outputs also must be documented. While it is apparent that the FCC staff already has spent considerable time in developing its Model, none of these basic documentation requirements have been shared with the public. Trying to fairly assess a model under these conditions is nearly impossible, except on an extremely generalized basis.

To pick just one example of the structural problems with the Model, it does not appear to address any of the issues germane to wireless interconnection, such as how the wireless industry (or even competitive LECs other than the interexchange carriers) will be affected by Commission decisions governing incumbent LEC cost recovery. This is a significant omission. If the intent of the Model is to address the effects of local telecommunications competition on the entire market, it is critical that the Model be capable of considering how both the wireless and non-interexchange CLEC segments will fare under different incumbent LEC cost recovery scenarios.

For these reasons, the Model cannot be used here and cannot be used for other purposes unless and until these basic deficiencies are remedied. Of course, the only way to reasonably utilize future versions of the Model is to publicly develop, in a comment and reply comment cycle, a reasonable base case that can then be subjected to further public scrutiny and comment as variations are introduced. Without an opportunity to evaluate both

the Commission's base case and the variables it intends to test, the Model cannot be used as the basis for any Commission decision.^{2/}

II. THE MODEL CANNOT BE USED TO ANALYZE LOCAL COMPETITION INTERCONNECTION ISSUES.

The focus of the local competition proceeding is on three areas: network element unbundling, reciprocal transport and termination, and the resale of LEC services. Notably, the Model either inadequately addresses — or fails entirely to consider — each of these critical issues.

First, the Model attempts to address unbundling by allowing the user to vary the assumed margin over incremental cost charged by the LECs for unbundled loops (See Model Inputs Lines 9-12). However, although the price of unbundled loops will significantly affect the demand for them, the Model provides no such linkage. By varying demand related inputs, the user can create any output result desired. Accordingly, the Model provides only the most rudimentary analysis of the effect of unbundled element pricing on the telecommunications marketplace.

More importantly, the Model does not address the other two critical issues in the local competition proceeding: incumbent LEC pricing of reciprocal transport and termination and local exchange resale. The Model apparently assumes that the Section 252 (d)(2) transport and termination rate is either bill and keep at a zero based rate or something so low as to be

^{2/} See HBO v. FCC, 567 F.2d 9, 35 (D.C. Cir 1977) (affected parties must be provided with adequate information on which to base comments in administrative proceedings). It is unlikely that the Commission could meet its Administrative Procedures Act obligations in time to rely upon the Model for any purpose in this proceeding.

lost in the rounding errors of the incumbent LECs³. As for resale, the Model does not even provide an input option for the discount off retail prices to be allowed CLEC resellers. In view of these significant inadequacies, the Model clearly can be put to no productive use in the local competition proceeding.

III. THE COMMISSION SHOULD NOT USE THIS MODEL AS THE BASIS FOR OTHER POLICY DECISIONS.

As described above, the Notice does not say how the Model will be employed. It is evident, however, that the Model cannot be used as the basis for Commission decisions, especially in its current state. Creating a usable model requires an understanding of hundreds of independent variables and the relationships among those variables, which would have been a difficult task even in the days of the monolithic Bell System. Indeed, the dynamic nature of today's telecommunications industry makes it doubtful that any effort to model the industry and predict the long term success or failure of specific groups of participants in the industry will be successful.

First, the very complexity of the telecommunications industry makes it extremely difficult to create a useful model. The Model contains close to 200 independent inputs, yet it still is far from comprehensive. As described above, for example, there is no mechanism for considering the marketplace consequences of changes in compensation for transport and termination of traffic, or in the rates for unbundled elements or in resale discounts. Any

^{3/} While Cox greatly appreciates the FCC staff modelers' assumption of bill and keep for reciprocal transport and termination, the Model's focus on incumbent LEC costs and pricing fails entirely to reflect the grave significance on the viability of wireless entities such as PCS providers and on CLECs of inflated reciprocal termination fees.

model that does not account for such changes, however, cannot accurately predict the growth of competitors or other relevant dynamics in the local exchange industry.

Similarly, any model of the telecommunications industry must depend on a series of assumptions. Those assumptions include many of the relationships among the variables the model contains. In the Model, one apparent assumption is that interexchange carriers and competitive local exchange carriers (and even CMRS providers) can be treated as if they are the same.^{4/} Another apparent assumption is that incumbent LECs will not compete with each other.^{5/} Neither of these assumptions seems accurate, yet their use may well have a significant effect on the results of the Model.

Additional problems arise when a model must be this complex and when it is intended to analyze the results not only of the industry as a whole but also of the constituent elements of that industry. As the complexity of a model and the granularity of the results required both increase, uncertainty and inaccuracy in the results also increase. This is exactly the problem that weather forecasters face every day. They can predict the general weather pattern for a region with fairly good accuracy over a period of one to three days, but rarely can predict the exact amount of rain or snow and typically cannot say exactly where it will fall. Equally important, it is effectively impossible to predict weather accurately over a

^{4/} See, e.g., Model, Detailed Results Module. Lines 251-261.

^{5/} This assumption already has been shown to be incorrect. Pacific Bell and GTE, for instance, have received authority to compete with each other in California, and a U S West affiliate has announced its intention to compete with Southern Bell in the Atlanta metropolitan area.

period of longer than about a week because there are too many variables and too many unpredictable elements.

Moreover, relatively minor changes in initial inputs can have significant effects on individual outputs. This phenomenon, known as sensitive dependence on initial conditions, can have a particularly great impact on outputs (such as the size or growth patterns of CLECs) that are small compared to the size of the model.^{6/} For all of these reasons, weather forecasts often avoid the deterministic approach followed by the Model, and instead rely on probabilities and statistics to describe likely weather.

Translating these concerns to the telecommunications industry and to the Model, it is evident that the Commission's modelers face the same problems as weather forecasters. The Model already contains hundreds of variables and assumptions, yet it is not sufficiently complex to account for the effects of Commission decisions on important industry segments such as CLECs. At the same time, increasing the already-high level of complexity will only make the results of the Model less reliable than they are already. In other words, "fixing" the Model to get information the Commission could use would only make it likely that the information will be so unreliable as to be useless. In addition, attempting to make specific predictions rather than adopting a probabilistic approach will reduce the reliability of any results even further.^{7/}

^{6/} See generally Edward N. Lorenz, "Predictability: Does the Flap of a Butterfly's Wing in Brazil Set Off a Tornado in Texas?" Lecture at the American Association for the Advancement of Science, 1979.

^{7/} As a general matter, such predictions are beyond the normal scope of policymaking as well.

In addition, the utility of any model is greatly reduced by the unpredictable nature of the telecommunications industry. Unlike weather forecasting, which at least is confined to certain defined types of weather, the most important element of the telecommunications marketplace over the next few years is likely to be change. It is impossible to know, for instance, how important the bundling of services, the use of facilities, reliability, customer service and a host of other carrier decisions will be. There is no way to model the impact of number portability on the growth of competition. There also is no way to predict how the Internet will change telecommunications, especially with the advent of Internet telephony and real-time video services. Indeed, there is little likelihood that any model could account properly for how technology, ranging from blue LEDs for use in fiber optic transmissions to new chip manufacturing techniques, will affect telecommunications businesses.^{8/} Simply put, given the combination of the necessary complexity of any model of the telecommunications industry and the unpredictability of the industry, trying to model the industry may well be pointless.

IV. CONCLUSION

The Commission cannot consider the Model in its deliberations in this proceeding. The Model is not sufficiently well developed to be of use in this or any other proceeding at this time. The Model does not include variables to test the effects on local competition of

^{8/} The effects of even minor technological changes on telecommunications markets can be significant. Reduced prices for cellular telephones and the shift from trunk-installed car phones to lightweight personal handsets, for instance, have been important factors in the completely unanticipated growth of the cellular business. The changes in prices and sizes of cellular phones were caused, in large part, on advances in the design and manufacture of computer chips.

decisions on the key issues facing the Commission in this proceeding, the pricing of resale, unbundled elements and reciprocal compensation. Equally important, trying to develop a model that can predict the effects of Commission policy on specific industry segments may not be even possible. For all of these reasons, Cox respectfully requests that the Commission act in accordance with these supplemental comments.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Cynthia S. Shaw, a secretary at the law firm of Dow, Lohnes & Albertson, do hereby certify that on this 8th day of July, 1996, I caused copies of the foregoing "Supplemental Comments of Cox Communications, Inc." to be served via hand-delivery, to the following:

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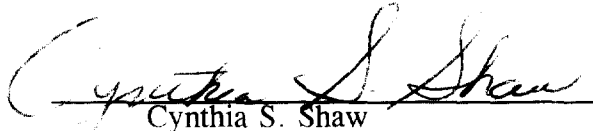
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